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Chapter Twenty-three

THE FISHERIES OF SOUTHEAST ASIA

The Fish Population

136 Because equatorial waters have low salinity and low oxygen content, it has frequently been assumed that they have a low fish population. That view is difficult to maintain for the shallow waters of Southeast Asia where, according to Herre, the number of kinds of fish and their diversification is unrivalled by that of any other marine region. Whether this paradox disproves the theoretical view about equatorial seas or shows that the fish population depends more on the local supply of nutrients which so broken and well-watered a region as Southeast Asia discharges to the sea in extraordinarily large quantities, has yet to be demonstrated. There is no co-ordinated study of the fishing industry as a whole in this region.

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Until recently, only the generic character of these Southeast Asia fish had been studied, from which it appears that, while by no means all of them have been named and identified, over 1,500 varieties are normally fished round Java, over 500 have been named as economically valuable round Malaya, and similar large varieties are reported from all territories. Most of the fish known are inshore fish, closely dependent on food particles carried from shore to sea and on the great growth of plankton, seaweeds and corals which supply fish food. Because the shores of the landmasses in most of this region are frequently backed by swamps, there is a very considerable fish population on the land surface itself, in a gradual transition between shallow water marine fish and swamp or riverine fish. Thus the fishing industry is not merely an inshore activity: it continues very vigorously inland, in the swamps, in the flooded paddyfields and their canals, in the lakes and lagoons, and in the rivers.

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[228] Though the deep-water fish of Southeast Asia have only in recent years been exploited commercially, by Japanese trawlers, they exist in these waters in surprising numbers. Schools of sardines some 10 miles long have been seen, together with frequent

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great shoals of mackerel and bonito. Porpoises (mammals which live on fish and are a guide to the fish density) have been seen in a school which packed an area 15 miles long and 2 miles broad. Plankton occurs at times in astounding quantities, practically smothering all other fish life in the neighbourhood. The movements and migrations of these fish of deeper waters have been little studied and the inshore fishing has been enough to meet local food needs, as well as not demanding too complex a technique or too great a capital outlay by the local fishermen who are generally very few, and too poor to equip themselves for long distance deepwater trips. A major impediment to introducing the elaborate systems of trawling and seining which have been developed in temperate seas is the frequency of coral reefs and knolls which, although attracting fish, catch the nets and ruin them.

Fish as a Staple Food

Fish is a staple in the Southeast Asia diet as complement to rice. It supplies calcium, iodine and salt as well as animal protein, items otherwise not easily come by in these areas, or too expensive for the peasants. By habit Southeast Asia people are rice-fish-curry eaters and vegetables in the European sense enter very little into their meals. They are largely vegetarian but not interested in vegetables. Fishing has an importance in local ecologies second only to rice. In Malaya, for example, well over 80 lbs. of fish is normally consumed by every man, woman and child every year. When looking through the records of any one territory, however, the great significance of fish is not apparent because fishing is a mobile and widely dispersed activity not easily checked, the more illusive statistically because it plays little or no part in revenues.

Several stages of commercialisation are met with but subsistence fishing predominates. In every paddyfield and swamp, villagers go fishing for their personal needs; on the coast many fishermen are part-time, sharing their labour between a paddyfield and a fishing boat. Some villages have specialised fishermen whose produce goes into exchange among the landsmen to make the village self-supporting. Gradually fishing for sale has become possible, yet there are major difficulties of transport to consuming centres, of organisation between fishermen and consumer, and of preserving the fish in good condition during transport.

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Trade in Fish

228 Apart from that fish eaten fresh on the coasts, the bulk is preserved for commerce and for storing during seasons when the sea is too violent, by sun-drying, salting or by conversion into one of the highly-spiced, partly-fermented fish sauces widely admired by Southeast Asia people (i.e. *blachan* in Malaya, *trassie* in Java, *nuoc mam* in Indochina, *kapi* in Siam, *ngapi* in Burma). Huge quantities of fish in these forms move inland within each country and there has developed a considerable movement of preserved fish between the different Southeast Asia territories, to supply the plantation and industrial workers. From Siam and Indochina alone preserved fish to the value of about $12 million was exported each year before the war. That fish preserving is widely practised even for local use means that the activity is very largely buffered from the alternations of glut and scarcity which are common in fishing industries. The transport of the preserved fish both internally and externally tends to be by sea for cheapness, a paramount consideration in a food for peasants, and because there are few alternatives. Only in a few areas is there a speedy land service able to deliver fresh fish to inland urban centres.

563 228 Commercialisation of fishing has brought in foreign personnel. Whenever fishing is carried on for export as cash sales, Chinese are frequently the principal fishermen, as at Bagansiapiapi (Sumatra) and Pangkor (Malaya), in the deep-sea fishing centred on Singapore (once associated with the Japanese) and even in the cultivation of fish in Javanese ponds. Moreover, Chinese are strongly represented as the middlemen who handle the trade from the actual fisherman to the ultimate consumer, and they are generally responsible for processing the wet fish into transportable forms.

Freshwater Fishing

226 While the absence of deep-sea and mechanical mass fishing methods is one peculiarity of Southeast Asia, equally remarkable is the emphasis on freshwater fishing. Very largely the methods of freshwater fishing—traps and small nets—have established the styles used for inshore sea fishing. For the most part the value of this freshwater production cannot be gauged though it has major importance in local diet. Two variations of freshwater fishing

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have exceptional interest. In Indochina the Tonle Sap fisheries represent the most productive of the natural fresh fisheries, and in Java has been developed a large cultivation of fish in ponds.

From Tonle Sap over 25 tons of fish are produced annually from each square mile of its surface, a productivity ten times greater than that of the well-fished North Sea of Europe, and unique in its intensity. This exceptional production is possible because the large area covered from early June by shallow floods enables fish to spawn profusely in about 3,000 square miles of inundated forest, where abundance of vegetable matter makes the fish grow larger than those in any of the neighbouring rivers. Over 30,000 persons are normally fishing this lake and the full-time fishermen live in villages of pile dwellings scattered round it; of these lake-side fishing villages Snoc Trou is the most important. A considerable number of migrant fishermen, Annamese, Chinese and Malay, move into this area temporarily for the peak fishing season from October to January. Over 135,000 tons of fish are obtained annually and half of this is dried before leaving the region; some fish are sent alive towards the estuary of the Mekong in floating cages of bamboo enclosing what is virtually an artificial shoal moving through the water to the market, an ingenious device for transporting live fish. The commercial side of this fishing is almost entirely Chinese. Over-fishing has been going on in recent years and controls are becoming necessary.

In Java two types of pond fishing have been evolved. Near Batavia, Sourabaya and Semarang where the demand for fish is great, mangrove swamps are partially enclosed to control the tidal water and into the enclosures are placed, between April and July, the spawn and young sea fish gathered among bundles of leaves which fishermen have previously placed in the open sea for the purpose. The spawn and young fish are carried to the fishponds in jars and there left to fatten on algae and water weeds cultivated for them. The milkfish (Chanos chanos) is popular for this purpose and reaches marketable size within a year. Elsewhere inland artificial freshwater ponds have been built, covering a total area estimated at over 100,000 acres, in which fish of the carp type are bred and fattened all the year round; 65,000 tons of fish are obtained every year by this means. Freshwater fisheries are now encouraged in every little tank or pond as a form of mosquito control.

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Inshore Fishing

Inshore sea fishing is by far the most usual in Southeast Asia. The boats used are generally very small, often needing only a man and a boy to work them, indicating the small units of the industry. Land and sea breezes play a key part in the rhythm of activity, being the source of power to and from the shore. It is unusual for the boats to move more than a mile from shore and rarely do they lose sight of land. Much inshore fishing is done without boats at all. The beaches are netted by fishermen moving waist deep through water and, wherever fish are known to migrate along the coast, barriers of bamboo are built out, leading the fish into a square enclosure or trap from which they are periodically drawn up in a net by a fisherman who lives with his family on a platform above the trap. Probably three-quarters of Southeast Asia sea fishing is done where the sea is less than 20 ft. deep. The fish thus obtained tend to be of the small type and a large proportion are crustacea, much favoured in local diet. Huge quantities of crabs, shrimps and mussels are obtained, and squids are regularly netted in large numbers for local use. The shells of crustacea are ground to powder and used in conjunction with the areca nut as a favourite old-fashioned chew common to the whole region. Because coastal fishing takes place so close to the shore where breakers are violent, it is markedly seasonal in character, depending on aspect relative to the seasonal winds. This seasonality is a great incentive to preserve the fish to last through that season when the little fishing boats cannot cope with the heavy seas. Inshore fishing closely relates to the shallow waters of the Sunda Platform; where the coast drops away to great depths, the intensity of fishing diminishes.

Distribution of Fisheries

While fishing commands a wide interest, it is by no means uniformly developed through the region. Broadly, the coasts near densely populated areas are the most intensively fished and estuaries and deltas have major fishing developments, though neither at the Red River mouth nor the Irrawaddy mouth has fishing reached a high pitch of development. The Mekong, particularly at the seasons when the Tonle Sap water is discharging, has great attraction for fish and the whole coastal zone from the Mekong

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round the Gulf of Siam to Singapore is well fished and is one of the few known tracks of fish migration in these seas, possibly relating to the southwesterly drift of the Mekong discharge. The Malacca Strait also has vigorous fishing industries, associated with the fishing at Bagansiapiapi and Pangkor which have been commercialised by Chinese. Along both sides of the Malacca Strait fish traps stand out from the coast almost continuously for mile after mile. Bagansiapiapi fish comes almost entirely from traps set across the creeks of the Rokan River. In the Philippines, themselves spread athwart the equatorial currents of the Pacific like a great trap, the annual catch of fish exceeds that of any other territory, yet the Philippines import much canned fish in addition.

For most Southeast Asia countries information about the significance of fishing activities is sketchy, although in every case fish ranks high in the basic foodstuffs. The total activity in fishing is enormous; probably 3 million people are engaged in Southeast Asia fishing and the amount of internal trade in fish must total far higher than so widely dispersed and so little commercialised an industry might at first suggest. There is always a substantial movement of fish in various forms from the coasts to the interiors and from one territory to another, as the following points indicate:

Burma.—That Burmese developed their tradition well in the interior may explain why it is only in Arakan and Tenasserim there has been intensive sea fishing. Within the Irrawaddy distributaries South Indians have taken to fishing and they deliver fish on ice to the rice farmers of Lower Burma, whose diet is more monotonously rice-and-fish than is the case towards the interior. The Buddhist tradition causes Burmese to disrespect fishermen on the grounds that they are responsible for the destruction of many living creatures. From Tenasserim and Arakan, surplus fish is exported to Malaya and India respectively, the total value (over 1935–40) being of the order $115,000 annually, of which Malaya takes over three-quarters. In net trade Burma is a fish-deficit area, importing over $3½ million of fish (about 12,000 tons), 60 per cent from India.

Malaya.—About 100,000 tons of fish were regularly landed on Malayan coasts by some 20,000 fishing boats (1950) chiefly on the coasts of Selangor, Perak, Trengganu, Pahang and Penang. At Singapore heavy prewar landings were accounted for by the deep-sea trawl-fishing done by Japanese crews working at long range

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THE PEASANTRY OF SOUTH EAST ASIA [1]

PROFESSOR RAYMOND FIRTH, F.B.A.

000 IF it is not wholly true that the social and economic reconstruction which is so necessary in Asia today must begin with the peasant, it is certain that no programme which omits the peasant can be on firm foundations. The recent history of China is evidence enough for this. My concern, as a social anthropologist, is with the analysis and classification of social relations between people and groups of people, rather than with political or economic affairs as such, although inevitably I cannot dis-
128 regard them. So my aim is to show briefly some of the most important
121 aspects of the social organization of the South East Asian peasant communities, and of the values by which this organization works. Though the details in my paper refer mainly to Malaya and Indonesia, I think the generalizations have some value for the South East Asian region as a whole.

If the basic features of the peasant society are ignored, one can understand neither the peculiar tenacity which it still possesses in modern conditions, nor the reactions of its members to the increasing impact of ex-
121 ternal economic and political forces. The definition of a peasant is a
565 countryman—a man engaged in rural pursuits, primarily agriculture, with
463 a comparatively simple technology and a special interest in the land he
241 works. In South East Asia one may extend the application of the term to cover the majority of fishermen and even village craftsmen too. They are
● 226 of the same social class as the agriculturalists, and often members of the
32 same families. As occupational groups, they may even be separable only in theory, since many a peasant farmer is also a fisherman or craftsman by turns, as his seasonal cycle or his cash-needs influence him. What R. H. Tawney has said of agriculture—that it is at once a craft, a business, and a manner of life—can be applied more widely here; the problems of all these peasants alike are partly technical, partly financial and commercial, and partly cultural and social.

162 It is difficult to say just what proportion of the present population of
565 South East Asia may be classed as peasants. It would seem that in nearly
241 every South East Asian country two-thirds or more of the total population
463 is to be found in agricultural communities, tilling the soil. In 1930 the
32 census of Java and Madura in Indonesia gave about 70 per cent of the male
462 workers as dependent for their livelihood on native agricultural output, and about 75 per cent in the regions of Indonesia outside Java and Madura, while large numbers of women were engaged in home craft production. In Siam, in about 1930, almost 90 per cent of the population lived in agricultural communities, rice production providing the living of about 80 per

[1] Originally delivered at a meeting at Chatham House on 21 February 1950.

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on the average, or only between one-third and one-half of the average in Japan.

Moreover, in any comparison between South East Asia and the peasantry of Europe, quite apart from differences in the production of crops other than the staple grain, there is an important difference in the average size of the holdings worked. The South East Asian peasant has fewer acres than the peasantry of Europe. In France, a country of peasant agriculture, about 40 per cent of the total number of agricultural holdings in 1931 were less than 2½ acres apiece; the average size of this group of holdings was 1½ acres each. But about 45 per cent of the total holdings were between 2½ and 22½ acres, with an average of about 10 acres each. There are areas in South East Asia where the average size of peasant holdings is fairly large. In Cochin China, while 72 per cent of the landowners have holdings between 2½ and 12 acres, there are provinces where more than half of them have holdings above 12 acres in size. In Siam, too, the average peasant holding seems of tolerable size—4 acres or so in the south and north east, 5½ acres in the north, and 10½ acres in central Siam, where more than one-third of the rural families live. But in Java, in 1938, the average size of holdings was only just over 2 acres for all tax-paying landowners in the country. In the Tonkin delta of Indo-China, another large area of heavy concentration of peasantry, as much as 60 per cent of the peasants have been reckoned to own holdings of less than nine-tenths of an acre, and 90 per cent to have holdings of under 4½ acres apiece. It has been estimated that a peasant family needs for adequate support 2½ to 5 acres of land, cultivating it by 'wet rice' methods. Many sections of the farming population in Java and Indo-China, for instance, are obviously well below this critical level. Even though large-scale irrigation and very intensive land use, including double cropping of rice in the year and much use of secondary crops, may lower the critical figure considerably, the peasant in such conditions is always liable to have to seek work outside his holding or to put up with inadequate living standards, even in nutrition.

The difficulties of agriculture in such conditions are further increased by the fact that a man's holding is often not a single undivided farm, but a set of dispersed fields, some of very small size. This dispersion and fragmentation of holdings allows for some advantages in adapting crops to soil and water variations, and is some security against wholesale raids by pests, but it makes for technical difficulties in the use of implements and labour on any scale. Since the dispersion is due primarily to traditional customs of inheritance and marriage, efforts to secure consolidation are apt to be only of temporary benefit, though some success has attended administrative action against undue fragmentation.

The same comparatively low level of productivity is seen in fishing, which gives the one great source of animal protein to the South East Asian peasant's diet. Before the war a Malay peasant fisherman produced on the average 1½ tons of fish per head per annum and in 1947 nearly 1 ton per

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433 annum. Productivity in the British fishing industry was, and probably still
226 is, at least eight times as great per man. In the United States' fishing in-
565 dustry it is much greater still. This immensely greater productivity per man is of course achieved only by a much heavier use of capital equipment. Technological investment, then, is an obvious method of trying to raise peasant production.

434 Peasant income in this region is thus low by most standards. Adequate
511 information about this is lacking, but there is no reason to doubt the indi-
565 cative character of what has been collected. For instance, an inquiry in Java in 1926 showed that over 60 per cent of the people had in cash and in kind incomes of less than £12 10s. a year (150 Dutch florins), and 80 per cent had incomes of less than £25 a year (300 florins). In Malaya in 1940 I calculated that the fishermen of the east coast earned on the average about £12 a year. This does not mean much without consideration of the prices of goods on which the income was spent. But any such comparison would soon make it clear that a man with such an income was hard put to it to keep his family in comfort. Cash incomes have risen steeply during and since the war, but so have the prices of consumer goods, and many peasants are probably rather worse off than before, unless they have been able to sell rice or other scarcity goods.

433 The peasant economy of South East Asia uses abundant labour and has
565 a low level of capital equipment. Even then, owing to lack of efficient
461 organization, one can point to a great amount of unused man-hours. Yet these features must not be over-stressed. It is common to blame the peasant for a *dolce far niente* attitude, and attribute his poverty to his idleness. What J. Johnston Abraham, the author of the well-known travel book, *Surgeon's Log*,[1] wrote forty years ago of the Malay is often quoted in essence still:

> The Malay . . . has the aristocratic contempt for toil . . . [he] is of all things a philosopher. He squats in the warm sun and chews betel contentedly. He sees the obvious foolishness of working in a country too hot for toil, when the earth is so prolific that a fortnight's leisurely labour will produce food for a year, and the water is so plentifully supplied with fish that an hour, in the cool of the evening with a net, will supply luxury for a fortnight.
>
> Anyone who has lived among the Malay peasantry and has seen their back-breaking work of rice-planting, or their long hours at sea in the broiling sun hauling the nets for fish, will know what a parody this is. The working rhythm of the Asiatic peasant is different from that of the European. The economic system is not well enough geared to alternative employment when technical hitches occur in his ordinary occupation. But the peasant is not simply thriftless of his time and his money. He plans with care his ploughing, sowing, weeding, and harvesting; he is assiduous in searching for fodder for his animals, in watering his vegetable garden, in repairing his fishing-boat or his net. If he can scrape together some extra cash above the daily needs of his family, he may spend it on clothes for his child or jewellery

[1] London, Chapman & Hall (14th rev. ed., 1920), pp. 69–70.